Report
Joshua Tree National Park

1.0 Site Description

Joshua Tree National Park is located in the Mojave and Colorado Deserts of southern California in Riverside and San Bernardino Counties. Nearby towns include Twentynine Palms and Yucca Valley, which are located on California Highway 62. The city of Palm Springs and its adjacent communities are also nearby, located to the southwest of the Park on California Highway 111. The Park is accessible to the major population centers of southern California via Interstate 10, which runs near its southern boundaries. There is currently no public transit service to the Park.

As shown in Figure 2, most of the developed facilities, roads, and trails are located in the northwestern portion of the Park. There are two main entrance points and Visitor Centers for the Park along with three additional entrance stations. The Visitor Centers provide camping, picnic, and drinking water facilities while the entrance stations have few or no visitor facilities. Many of the Park's other visitor facilities and points of attractions are located along Park Boulevard, which runs in roughly a U-shape form from the West Entrance Station to the North Entrance Station and Oasis Visitor Center, connecting to the towns of Yucca Valley, Joshua Tree, and Twentynine Palms.

A paved road branches off of Park Boulevard leading to Keys View, one of the Park's points of interest. The second main route through the Park is Pinto Basin Road, which connects to Park Boulevard, and runs roughly south to the Cottonwood Visitor Center, eventually reaching Highway 195 and Interstate 10. In addition to the paved roads, there are a number of unpaved routes within the Park, some of which are suitable for four-wheel drive vehicles only. Among these is the 18-mile long Geology Tour Road, which winds through some of the Park's more interesting rock formations.

Of the Park's 794,000 acres, over 593,000 are legislatively designated wilderness, set aside for preservation of natural, cultural, historic, and scenic resources. The Park encompasses a variety of desert environments, wildlife, and plants, including its namesake Joshua Tree. The natural resources are located in oases, valleys, and canyons at elevations ranging from 1,000 to 5,900 feet. The Park contains all or portions of several mountain ranges including the San Bernardino, Cottonwood, Hexie, Pinto, Coxcomb, and Eagle ranges. The Park also boasts a number of interesting geological formations and rock climbing is a popular activity.

While the name of the Park implies a natural resource focus, cultural resources are important as well. Within the Park, there are traces of the earliest people to inhabit this area, the Pinto, as well as later Native American groups. Among the points of interest in the Park are abandoned mines and other sites left behind by 19th and 20th century miners, ranchers, and homesteaders.

1.1 Visitation

The Park currently receives about 1.3 million visitors per year. In the past, most of the visitors came from southern California. However, since its designation as a National Park in 1994 (the Park was previously a national monument), the visitor base has diversified. Joshua Tree is now more of a destination Park, seeing significant number of visitors from northern and eastern states, as well as significant numbers of foreign tourists.

About 60 to 75 percent of the total annual visitation occurs from late October through Memorial Day, with peaks occurring prior to the mid-winter holidays and when wild flowers bloom in the springtime. However, tourism in the summer months has been steadily rising, in part due to tour buses of foreign tourists. The increasing use of motor homes, which are self-contained and enjoy conveniences such as air conditioning, has also increased summer visitation. In general, visitation levels have been steadily increasing in recent years.

Most of the visitors enter the Park from the north, although the Cottonwood Visitor Center at the southern entrance has recently seen increased visitation. Since the southern entrance is 40 miles from the cluster of Park attractions in the northwest area, many of these visitors stay for only a short time, driving in and out in one day.

1.2 Activities

The most popular activities at Joshua Tree include rock climbing, watching rock climbers, camping, and hiking. Hiking as an activity will be supported by a planned expansion of the trail system from 70 to 270 miles. Visitors are drawn to the Park for its openness, solitude, clear air, and night skies that remain unspoiled by light pollution. In springtime, visitors come to see the wildflowers in bloom and birdwatchers visit the Park at various times of the year.

Hidden Valley is the point that receives the most intense use within the Park, as it is a key rock-climbing destination. Other important points of interest include the Keys View, which offers views to the Coachella Valley and points north with visibility up to 100 miles, and the Barker Dam, which offers opportunities for wildlife viewing.

1.3 General Management Plan

Joshua Tree National Park is currently in the process of implementing actions outlined in its 1995 General Management Plan. The proposed action focuses on accommodating increasing numbers of visitors, expanding the interpretive facilities, upgrading the roadway network, and building new parking facilities. The new construction would occur mostly on already-impacted lands. While the Plan mentions the possibility of a shuttle bus serving popular attractions, roads and/or entrance stations too narrow for recreational vehicles, have kept this concept from being further developed. The Park has received federal funding to implement seven miles of roadway improvements this year, and has secured funding for similar roadway projects slated for the years 2002 and 2005.

2.0 Existing ATS

As the Park experiences increasing visitation, transportation-related impacts are of increasing concern. As described in the General Management Plan, "Much of the road system is inadequate and in poor condition." Some of the roads that were previously accessible by two-wheel drive passenger sedans are now recommended only for four-wheel drive vehicles. Others are accessible by all vehicles but remain challenging due to deep ruts and other conditions. In particular, the increasing tour bus traffic poses a problem as bus drivers attempt to maneuver their large vehicles along the roads to locations such as the Keys View. There have been instances of tour buses becoming stranded.

Of more urgent concern, from a resource conservation point of view, is the tendency of roads and parking lots to "creep" into the adjacent desert. The desert environment is quite fragile and wheel tracks can remain for many years. In addition, there are a number of magnificent old Joshua trees adjacent to the pavement that are susceptible to damage. Because the desert is flat, visitors have tended to pull off roadways wherever it suits them, compacting and damaging the desert floor. For this reason, the new roadway design standard for the Park includes curbs, despite the increase cost. Unpaved roads have been graded to 12 to 18 inches below the desert floor, a design that keeps most vehicles within the roadway. At other locations on unpaved roads, steel posts camouflaged by boulders are used to prevent encroachment.

Parking lots at attraction points have also been cited as inadequate. This results in visitors parking along the roadside or in parking lots for other facilities and trekking across the desert to reach their destination. The result is increasing bare spots and social trails that damage soils and vegetation. The cost of mitigating this impact and re-vegetating the damaged areas is quite high.

There is also some congestion, primarily along the two-lane Park Boulevard that occurs when some disturbance or wildlife sighting occurs during peak traffic periods. Finally, air quality is a concern since the Park is located in the southern California air shed. Most official park vehicles run on compressed natural gas to minimize air quality impacts.

As visitation increases, repeat visitors are becoming more aware of and making greater use of paved and unpaved roads. Thus, the impacts of vehicular traffic, including roadway encroachment, air pollution, congestion, and safety problems are likely to increase. The actions and improvements proposed in the General Management Plan have been characterized as being merely adequate to keep up with increasing visitation.

3.0 ATS Needs

The most promising alternative transportation system (ATS) envisioned for the Park is a 22-mile bicycle trail system that would connect the major attractions clustered in the northwest area. A large percentage of the visitor population brings mountain bicycles to the Park. While bicycles can be ridden on the Park's existing roadway system, there are

sometimes conflicts between motor vehicles and bicycles on these narrow roads. The proposed bicycle trail would be about six feet wide, separated into two directional lanes, and paved with asphalt or some other surfacing material. The trail would be completely separated from roads used for motor vehicles and would be accessed from existing campground parking areas. Although the bicycle trail could potentially connect with trails leading to the western entrance of the Park and adjacent towns, most visitors would probably access the trail from within the Park.

According to preliminary estimates, the bicycle trail system would require approximately $1.8 million to construct, although it could be implemented in less expensive phases. A formal application for discretionary TEA-21 funds for the bicycle trail was made but not advanced by the NPS regional office. This initial funding request was for $50,000 for more detailed engineering work. Park officials do, however, intend to continue to pursue funding for the project.

Park officials do not see a short-term need for other types of ATS. These alternatives would include shuttles, buses, or vans from nearby towns to the Park, as well as a motorized shuttle service within the Park. The freedom to use one's own vehicle, to move about on one's own schedule, and to make use of four-wheel drive vehicles were cited as qualities that attract visitors to the Park. The likely need to subsidize operational costs, and the southern California car culture were also cited as impediments to ATS in the near term.

Other types of ATS may become feasible in the longer term if visitation levels continue to increase. In particular, foreign visitors may be more accepting of public transit or shuttle options to reach and move about the Park. Another possibility would involve bringing tourists from nearby cities, in particular Palm Springs, on shuttles for group tours of the Park. However, all these options should be considered at some point in the future. The ATS option that the Park is immediately pursuing is the bicycle trail system.

4.0 Basis of ATS Needs

The developed portion of Joshua Tree National Park is an ideal location for a bicycle trail system. The area is flat, at about 4,400 feet elevation, and attractions are spaced about two to three miles apart. Visitors based at Hidden Valley campground would be able to tour the Park's main attractions within a day or two and a riding distance of 14 miles. Bicycle touring would afford visitors a more relaxed and quiet means of experiencing the Park, away from the noise, dust, and traffic of roadways. A bicycle trail would benefit the Park by reducing internal motor vehicle traffic along with the concurrent impacts such as roadway encroachment, air pollution, and congestion.

5.0 Documents Reviewed

Joshua Tree National Park, *General Management Plan, Development Concept Plan, Environmental Impact Statement*, 1995.

6.0 Persons Interviewed

Harry Carpenter, Facilities Manager

Daral Bowe, Roads Facilities Manager

John Williams, Buildings Facilities Manager